

REMARKS

Claims 1, 4, 5, 9, 11-14, 17-28, 32, 34, 37-39, 42-45, 48, 49, 53-55, and 57 are pending and Claims 2, 3, 6-8, 10, 15, 16, 29-31, 33, 35, 36, 40, 41, 46, 47, 50-52, 56, 58 and 59 are withdrawn from consideration. An Office Action mailed June 17, 2004 rejected Claims 1, 4, 5, 9, 11-14, 17-28, 32, 34, 37-39, 42-45, 48, 49, 53-55, and 57 under 35 U.S.C. § 103. Pursuant to 37 CFR § 1.111, Applicants hereby respectfully request reconsideration of the application.

REJECTION OF CLAIMS 1, 4, 5, 11, 13, 14, 18-28, 34, 38, 39, 42-45, 49, 53-55, AND 57 UNDER 35 U.S.C. § 103

The Office Action rejected Claims 1, 4, 5, 11, 13, 14, 18-28, 34, 38, 39, 42-45, 49, 53-55, and 57 as being unpatentable over Crook in view of Bateman et al. The Office Action states that Crook does not specifically disclose an alert signal when the landing is unsafe and that Bateman discloses a ground proximity warning system for use with aircraft having degraded performance comprising an alert signal if the landing is unsafe. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to employ the teaching of Bateman in the system of Crook because they both teach a device that relates to the field of aircraft ground proximity warning systems. The teaching of generating an alert signal when the landing is unsafe of Bateman would enhance the system of Crook by providing the pilot an indication as to what should be done to recover from a dangerous situation. Applicant respectfully traverses this rejection.

Applicant submits that Bateman discloses a ground proximity warning system that alerts the flight crew when they are getting dangerously close to the ground. Crook discloses a system that determines when an aircraft will come to a complete stop (d3) from an estimated point of touchdown based on known gross weight and braking performance. It appears that d3 is compared to known length of the runway to determine if a safe landing can be performed. Thus, Crook determines limits of safety when the aircraft will be on the ground. Bateman generates

alerts based on an envelop only when the aircraft is airborne to determine if the aircraft is going to hit the ground, Applicant submits that there is no motivation to combine the two in order to teach or suggest the present invention. Crook is motivated to keep the pilot alert as to the safety of a landing to full stop and Bateman is motivated to inform the pilot of an impending accident with the ground.

Applicant submits that if Crook were to be combined with the ground proximity warning system of Bateman, the aircraft would only provide alert signals if the flight profile (flight path angle, angle of attack, speed position, radio altitude, air speed) put the plane within a caution or warning envelop that is related to the distance to ground. Thus, if an aircraft is flying a normal approach relative to the ground (i.e., flight path angle, angle of attack, speed position, radio altitude, and air speed), the aircraft is outside the caution or warning envelope, no alert is sounded. But if the same aircraft is projected to land near the last one third of the runway and the full stop position is calculated beyond the end of the runway, the safeness indicator 21 (Crook) continually informs the pilot about the “safeness” of the landing. Bateman does not disclose a landing is unsafe, but discloses if the present performance of the aircraft will lead to a CFIT (Controlled Flight Into Terrain) situation.

Applicant also submits that Crook discloses that for low visibility takeoffs, as the aircraft progresses along the runway, the distance remaining is constantly compared to the distance it would take the aircraft to stop (col. 3, lines 26-28). Crook only compares actual distance to distance it would take the aircraft to stop during low visibility takeoffs. The distance it would take the aircraft to stop is just a distance threshold value, which would be dependent upon a known single deceleration value. Crook fails to teach or suggest estimating deceleration required to stop the aircraft on a runway of intended landing and comparing the deceleration to a maximum deceleration of the aircraft.

Therefore, Independent Claims 1, 5, 13, 19, 21, 23, 25, 38, and 49 are allowable for the above reasons. Because Claims 4, 13, 18, 20-22, 24, 34, 39, 42-45, 53-55, and 57 depend from

allowable independent claims, they are allowable for the same reasons that make their corresponding independent claims allowable.

REJECTION OF CLAIMS 9, 12, 17, 32, 37, AND 48 UNDER 35 U.S.C. § 103

The Office Action rejected Claims 9, 12, 17, 32, 37, and 48 as being unpatentable over Crook in view Bateman et al. and further in view of Muller et al. The Office Action states that Bateman and Crook do not directly teach the step of monitoring a plurality of parameters that include a step of monitoring a position of the aircraft. However, the use of GPS to indicate the current position and projected flight path of the aircraft is old and well-known in the art as taught by Muller and that it would have been obvious to the skilled artisan to use the GPS of Muller in the system of the combination so that the position of the aircraft is accurately monitored. Applicant respectfully traverses this rejection.

Applicant submits that Muller fails to overcome the deficiencies of Crook and Bateman. Therefore, Claims 9, 12, 17, 32, 37, and 48 are allowable for depending from allowable independent claims.

CONCLUSION

Applicant respectfully submits that all of the claims of the pending application are now in condition for allowance over the cited references. Accordingly, Applicants respectfully request withdrawal of the rejections, allowance, and early passage through issuance. If the examiner has any questions, the examiner is invited to contact the Applicant's agent listed below.

Respectfully submitted,

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MAIL CERTIFICATE

I hereby certify that this communication is being deposited with the United States Postal Service via first class mail under 37 C.F.R. § 1.08 on the date indicated below addressed to: MAIL STOP AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

9/7/04
Date of Deposit

Michelle J. Cameron